IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	
Erland R. Sandstrom et al.	:	Examiner: Marc A. Patterson
U.S. Serial No. 10/625,576	:	Group Art Unit: 1772
Filed July 23, 2003	:	
Docket No. 2160-1B (FJ-99-36-1B)	:	
For: INJECTION BLOW- MOLDED DISPOSABLE TUMBLER AND METHOD OF MAKING SAME	:	

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

DECLARATION UNDER 37 CFR 1.132

Donald C. McCarthy, co-inventor of the subject matter of the above-noted patent application hereby declares that:

1. He was awarded a Doctor of Philosophy Degree in Polymer Science and Engineering from Lehigh University (Pennsylvania) and has worked in connection with product development and manufacturing of disposable products for more than 30 years. That he is a co-inventor of the pending '576 application referenced above and makes this declaration in support of patentability.

2. That he is familiar with the Official Action rejecting the pending claims of the above-noted patent application dated March 23, 2005, as well as International Patent Cooperation Treaty Publication No. WO 93/04118 to *Maxfield et al.* which is the primary basis for the rejections made over prior art.

3. That *Maxfield et al.* describes formation of polymer nanocomposites which may be processed and shaped by melt spinning, casting, vacuum molding, sheet molding, injection molding and extruding. *Maxfield*, p. 37, lines 35-37. Injection blow-molding is substantially different from other polymer processing techniques, especially those disclosed by *Maxfield et al.* Injection blow molding is performed in a multistep integrated process by injection molding a parison and then expanding a molten parison radially with a compressed gas into the desired shape. It is unpredictable whether a particular class of polymer material can be injection blow-molded and formed into shaped articles.

4. That, in his experience, a relatively high melt strength polymer material is required to blow-mold an article of manufacture such as a tumbler. Melt strength may be thought of as the ability of a molten composition to resist deformation as well as remain intact when drawn or expanded. The melt strength of a material determines how much deformation and stress a molten parison can endure without fracturing. Fillers generally form a separate phase in molten polymer compositions and do not deform in the same way as a molten polymer. Accordingly, fillers usually degrade the melt strength of a polymer composition.

5. That he has personally observed that suitable polymer materials made with nano-clay fillers such as montmorillonite exhibit increased melt strength as opposed to like unfilled polymers. This feature has been observed by noting that an unsupported, horizontally extruded film will maintain horizontal orientation over a longer distance than a film made without nano-filler. This result is an unexpected, superior result in terms of processability of filled polymer materials for injection blow-molding

because it is seen that nanocomposites have superior melt strength over polymer compositions without nano-filler.

6. That he has personally observed that polymer materials made with nano-fillers are readily blow-molded into articles of manufacture, confirming the results noted above that nano-fillers can actually increase melt strength.

7. The undersigned Declarant declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the subject application or any patent issuing thereon.

Dated August 8, 2005

Donald C. McCarthy

Donald C. McCarthy